

MOORE (W. O.)

THE AFTER-TREATMENT OF CATARACT-
EXTRACTION.

BY

WILLIAM OLIVER MOORE, M.D. (Columbia),
PROFESSOR OF DISEASES OF THE EYE AND EAR, N. Y. POST-GRADUATE
MEDICAL SCHOOL AND HOSPITAL, NEW YORK.



FROM

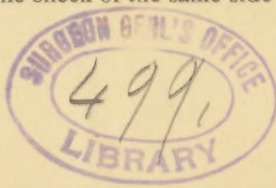
THE MEDICAL NEWS,

September 2, 1893.

THE AFTER-TREATMENT OF CATARACT-EXTRACTION.

BY WILLIAM OLIVER MOORE, M.D. (Columbia),
PROFESSOR OF DISEASES OF THE EYE AND EAR, N. Y. POST-GRADUATE
MEDICAL SCHOOL AND HOSPITAL, NEW YORK.

ON the completion of the operation of extraction of a cataract, the cornea and the conjunctival cul-de-sac should be carefully washed with a warm boric-acid solution, in order that all secretions or coagula may be removed—a solution of mercuric chlorid, 1:8000, may also be used. The eyelids should then be gently closed, and over them placed a small square of old linen, either dry, or covered with oleum petrolei, cold cream, or the like. When the skin is delicate the oiled linen is preferable. Small pads of absorbent cotton are now gently placed over the linen cloths, sufficient in quantity to fill the space between the eyeball and the forehead, so that the pressure of the bandage will be uniform and gentle. This cotton may be medicated or not, as desired by the surgeon. Over this dressing is placed the roller bandage. This is made of fine baby-flannel, if in the winter season, and of cheese-cloth if in the summer. It should be from one and one-half to two inches wide, and about three yards in length, applied in the form of the well-known figure of 8. One begins on the cheek of the same side as the



operated eye, then over this around the forehead, over the fellow-eye, and so on until the roller is finished. As a rule, only one pin is required to fasten the bandage, and this of the ordinary kind ; I have never seen a bandage properly applied when *one pin* was not sufficient to hold it in position, except in the case of women having long hair. It is my custom in such cases, besides using the pin, as mentioned, to either fasten the bandage by means of a hairpin passed through it, and into the back hair, thus securing it, or put on an old-fashioned nightcap over the bandage, which keeps it firmly in place.

I am fully aware that all I have said as to the bandage is considered by many to-day as unnecessary and behind the times, and that we are only called upon to place bands of water-plaster, or any adhesive strap over the closed eyelids, and all will go well ; this, we must admit, may happen ; and I have also seen *one case* in which no dressing save a shade was required, and judging from the results, I should commend this plan of after-treatment, although we must all admit that the patient has far more comfort with the bandage. When the bandage is applied, the patient, if in the operating-chair or upon the table, should be gently led to bed, and when in it, allowed to assume any position that is comfortable and easy. The old practice of keeping cataract-patients in bed upon their back for the first twenty-four hours is cruel and uncalled for. The only caution necessary is that the eye be not struck by the patient's hands, the corner of the pillow, etc. The patient may have freedom in

micturating, for great inconvenience and annoyance is often caused by the attendant insisting on the use of urinals, "ducks," etc. At the end of twenty-four hours, or earlier, if the patient is restless, a sitting posture may be assumed, the patient being dressed and allowed the use of an easy-chair. Many patients have done badly in the past, from the too rigid observance of the old ideas of after-treatment. Hypostatic congestion of the lungs may be set up by the rigid enforcement of rest on the back.

It is my custom to leave the bandage on both eyes for four days, without change, unless severe pain is experienced, when it is immediately removed; the eyelids are bathed gently with a solution of mercuric chlorid (1:10,000) in order to cleanse them; the lids should then be gently opened, and the affected eye inspected. When no pain occurs after the operation, and all is quiet at the end of four days, I remove the bandage *for the first time*, and inspect the eyes, first having washed them with the mercuric chlorid solution.

Of course, it is taken for granted that the room in which the patient is placed is moderately dark and has no sunlight falling in the apartment. I have, however, no sympathy with those who keep the room absolutely black—in fact, so dark that the blackness can "be felt." Such darkness not only injures the health of the patient, but is also a temptation for the attendants to keep the room untidy, thus favoring germ-development. It is to be hoped that these days will soon pass, and that instead of the *room being made dark*, the patient's eyes only shall be properly shielded during the healing pro-

cess, by placing a fold of black silk or muslin over the applied bandage.

If, upon inspecting the eye, no undue redness is noticed, and if no evidences of iritis are present, a mydriatic need *not* be used, but should the pupil be narrow, and the eye-ball quite red, then atropin sulfate, two grains to the ounce of water or oil, should be instilled twice daily. The bandage need not be applied over the unaffected eye after the fourth day, it being sufficient usually to simply shield it by means of a shade. On the eighth day I usually remove the bandage from the affected eye in the morning, and have the eye only shaded during the daytime, reapplying the bandage at night. London-smoke glasses are very useful as protectors, and with a shade over them give ample protection against the strongest light.

If the healing proceeds rightly, the patient may have the freedom of the floor upon which his room is located—that is, in walking to and fro for exercise—and at the end of four weeks he may have lenses adjusted, and go on with his usual life as before.

In an experience in the Mary Fletcher Hospital, at Burlington, Vermont, extending over a period of six years, the average duration of hospital-treatment was ten days, and in New York it has not exceeded fourteen. The shortest period of hospital-treatment was in a male, aged ninety-one, who remained in the hospital *three days*, when he was allowed to return to his home, with the wound thoroughly healed and the eyeball pale. This is one of the shortest periods on record. This patient was seen

by my colleague, Dr. Roosa, who remarked that he should have thought three weeks to have elapsed, rather than three days.

In cases in which pain occurs, and in those in which on removing the dressings pus is found on the linen pad in considerable quantity, it can be safely concluded that purulent infection of the wound has taken place. This sign rarely fails. On opening the eyelids the corneal wound will be found infiltrated throughout its entire extent, and perchance pus will be found in the anterior chamber. In these cases the best treatment, and that which I adopt, is, after having carefully washed the eyelids with the mercuric chlorid solution, to cauterize the corneal wound throughout its entire length with the galvano-cautery, thus attempting the destruction of the infecting virus. Hot-water applications, made as hot as can be borne, used every two hours, ten minutes at a time, will greatly relieve the pain, and cut short the suppurative process. Atropin sulfate (gr. ij, aquæ ʒj) used every two hours, keeps the iris out of harm's way, and when combined with cocain greatly mitigates the pain. The reopening of the wound, and the removal by forceps of the exuded matter from the anterior chamber, are of no avail; nor is the injection of Panas' fluid into this space advisable, my experience having been against both of these procedures. The eye should be shielded from light in all such conditions. Purulent infection of the wound, and attendant suppurative iritis, usually result in closure of the pupil and a drawn-up iris—it may even go on to *panophthalmitis*, though this is rare.

The closure of the pupil as the result of this suppurative condition reduces vision to only perception of light. This is best treated by *iridotomy*, a few weeks after all the acute inflammation has subsided. *Iridotomy* may be performed by means of De Wecker's method—that is, by using the specially made stop-keratome, or iridotomy knife, which he has devised, and his iridotomy scissors. The scissors, or at least those that I have seen, are objectionable, in that being forceps-scissors they cut unevenly—that is to say, they bind well at the heel of the instrument, and not well at the extreme point, so that they bruise the iris rather than cut it, having given rise, in several cases seen, to irido-cyclitis. De Wecker's iridotomy may be made single or double, according as the iris is incised once or twice. The operation is done under cocain. The iridotomy knife is introduced in the same manner as for an iridectomy—that is, about one-fourth of an inch from the corneal margin, the instrument being held perpendicularly to the eyeball, and by gentle pressure forced into the corneal tissue and into the anterior chamber until the stop on the knife reaches the cornea, so that in this step of the operation the knife-blade is in the anterior chamber, in front of the iris and occluding membrane, and behind the cornea. The knife is now partially withdrawn, and then its point pushed through the iris tissue or membrane, making thus an opening for the subsequent introduction of the iridotomy scissors. The knife is then gently withdrawn, and the iridotomy scissors, with its blades closed, is introduced through the corneal incision (which is at the superior bor-

der) into the anterior chamber. One blade is then passed through the opening made in the iris tissue or membrane (or both), and the other blade being in front, the forceps blades of the scissors are pressed together and the tissue between the blades severed. If there is elasticity to the tissue a fair opening will be immediately noticed. Failing to obtain a sufficient pupil by one incision, the blades may again be placed in another position, and a second incision made, connecting with the first, forming an inverted V, or cordiform pupil. In some rare instances the parts cut will not retract, and we have to resort to removing a piece of the iris tissue. In treating these cases of closure of the pupil after purulent iritis and the like, I much prefer to use the much simpler method, iridotomy, with an ordinary cataract knife, as the procedure is so easy and there is less manipulation and danger in its performance.

The eye cocainized, with speculum and fixation-forceps in position, securing the eyeball, a sharp, narrow Graefe cataract-knife is thrust through the cornea above and toward the peripheral portion, into the anterior chamber; the point is then thrust through the iris and membrane tissue into the vitreous chamber, and by a rapid downward cut the parts are divided, so that the resulting incision will fall opposite the corneal center as near as may be. The knife is now withdrawn, a small quantity of aqueous escaping, and the wound of entry closing immediately. This simple iridotomy is very effectual, and is to be highly commended.

Failure to secure a sufficient opening by means of

the simple iridotomy at the first attempt, we may, after a fortnight, make a second endeavor, when we are likely to succeed.

The after-treatment to be adopted after either of the foregoing forms of iridotomy includes rest, a bandage, and the use of atropin sulfate (gr. ij to aq. ʒj), two drops four times a day—for one week. Usually at the end of this time any reaction that may have occurred will have subsided. As soon as the eye is quiet and all redness has disappeared lenses may be adjusted.

Prolapse of the iris is another accident to be spoken of in the after-treatment of cataract-patients. This is more especially liable to occur in those patients on whom no iridectomy has been performed, or after what is called the "simple operation." Even after the dressings have been adjusted, and during the interval between the operation and the first removal of the bandage this may take place, even in those patients in whom no prolapse occurred at the time of the extraction. This I have frequently seen in the practice of others (I prefer the compound operation); it has been probably caused by some undue exertion on the part of the patient, as coughing or sneezing, which has forced the iris through the unhealed wound.

When this condition is found, gentle efforts should be made to repose the iris into the anterior chamber by means of a spatula, but in my experience this rarely succeeds; eserin instillations are also very strongly advised, but again my experience is also against this method of treatment. Mydriatics and myotics do not act with any degree of satis-

faction on the iris when the anterior chamber is leaking. When the iris cannot be replaced or reposed by means of the spatula, I should emphatically advise its excision by iridectomy. The treatment suggested by some, to allow the incarcerated iris to heal in the corneal wound, is, without question, dangerous. In those instances in which the iris becomes entangled in the angles of the corneal incision, when iridectomy has been performed, it is advisable to introduce the iris forceps and free the entanglement by removing a piece of the iris-tissue. One should then carefully rub the iris back from the wound by means, *e. g.*, of a spoon, by pressure on the cornea over the point of the recent difficulty. This condition is exceedingly rare, if the precaution has been taken after the extraction, of carefully inspecting the wound before applying the dressings.

Prolapse of vitreous is occasionally found when the dressings are removed for the first time—sometimes appearing as a small bead in the center of the corneal incision, and again occupying the whole length of the wound. Healthy vitreous thus presenting in the wound acts as a foreign body and a wedge and prevents the healing of the parts. In the few cases that have come under observation I have found that a change from the former recumbent position and one of quiet repose to that of the erect posture and active exercise has done much to cause the vitreous to recede. By active exercise I mean walking to and fro in the ward or apartment with considerable freedom. Some advise cutting off the protruded vitreous by scissors, and then re-

applying the bandage ; some even advise introducing a delicate suture in the corneal wound. The first method suggested is preferable *every time*.

Entropion of the lower lid is occasionally the cause of much annoyance in the after-treatment of cataract, as the inverted lid causes irritation and conjunctivitis. The quickest way is to remove an elliptic portion of the skin of the lower lid and then unite the edges, thus producing shortening of the lid ; many will not, however, submit to this. Straps of plaster may be placed close to the ciliary edge of the lid, and the lid drawn down by fastening the other extremity of the plaster on the cheek ; this is unsatisfactory, as the tears soon cause the plaster to give way. Again, the lid may be held down by the finger and the patient directed to look up ; while in this position an application of flexible collodion may be made to the skin of the lid parallel with the ciliary border, and the entire width of the lid. When the collodion is fixed the lid may be replaced, and usually this procedure will prevent the entropion for twelve hours, when the collodion band may be reapplied.

In some cases, in addition to these local measures, the administration of the fluid extract of conium internally has been of service. It seems to have an especial action on the muscles of the eyelids. It may be given in fifteen-drop doses every three or four hours, according to the effect produced.

Delirium after cataract-extraction has long been noticed and was thought by many at first to be due to atropin-poisoning ; but this cannot be the fact, as it occurs in patients when no atropin or other

drug has been used in the eye. It is not a surgical delirium, as the shock in the operation for cataract is of no importance. It is probably due to the deprivation of light, and with patients of feeble physical or mental make-up. It not only occurs in those who have been operated upon for cataract, but has been noticed to occur in those confined to darkened chambers for other causes. Should this condition occur, it is evident, therefore, that the removal of the bandage and the use of a shade or colored spectacles are called for.

Striped keratitis is occasionally met with during the healing process, and may show itself in different degrees of intensity from a few bands to a complete opacity of the cornea. It is due to changes in the endothelial layer of the cornea produced by traumatism during the extraction. It usually clears up and the condition gives way in a few weeks; only rarely does a permanent opacity of the cornea remain.

Lachrymal diseases often coexist with senile cataract, and even in those cases in which the precaution has been taken to operate upon the diseased lachrymal passages before the cataract-extraction. Poisonous secretions are prone to linger and form beneath the closed eyelids. Some prefer to put a fine powder of iodoform along the line of the corneal wound; the only objection is the disagreeable odor. It is my habit in all such instances to remove the bandage after the second day, and not to replace it save at night, being satisfied to protect the eye from undue light by means of smoked glasses and a shade. By bathing and washing out the conjunctival cul-de-sac

with mercuric chlorid solution, we are sure to prevent infection of the corneal wound by the infectious lachrymal secretions. In other words, these should be treated as open wounds.

Pain a few hours after the extraction of cataract is frequently noticed, and is to be expected in moderate degree, as the natural sensations of the parts are returning, and added to this is the sting and smart of the operation itself; if, however, the pain and discomfort do not speedily subside, it is wiser to remove the dressings, and very gently, without exposing the eye, pull down the lower lid of the operated eye a very little, just enough to allow any pent-up tears to make their escape. I have frequently seen this simple procedure give entire relief to the patient. The dressings should then be reapplied, and such cases may then go on favorably. Neglect to attend to such trifles will often protract the healing process.

Membranous or secondary cataract. In the majority of patients operated upon for the extraction of cataract, membranous or secondary cataract develops, varying in its appearance from a few weeks to several months after. So much so is this the case, that most operators explain to the patient before the extraction, the probable necessity of a secondary operation, or needling, that they may obtain the full acuteness of vision.

This secondary cataract, so called, is simply the thickening or wrinkling of the posterior capsule of the lens—with perhaps some portion of the lacerated anterior capsule curled upon itself. This membrane,

being in the line of vision, of course reduces very materially the acuteness.

So long as we continue the present mode of extraction by lacerating the anterior capsule and leaving the capsular mass in the interior of the eye, we must expect membranous cataract. The ideal operation would be to remove the lens in its capsule; this has been done both by design and also by accident. However, as a plan of operating it has been generally abandoned.

In many the secondary cataract shows at the very outset, and even when the healing process is satisfactory. It can be seen best by an oblique light as a gray film stretched across the pupillary region, and by the ophthalmoscopic mirror appears as a cobweb-like material, wrinkled, and sometimes looking like watered silk, the reflex of the fundus showing through it. The density and opaqueness of the capsule cause more or less diminution of sight. Operations for membranous cataract should not be attempted until all signs of inflammation have disappeared from the eyeball, when needling may at any time be performed. The pupil should be fully dilated by a mydriatic, and the eye anesthetized by cocain. A speculum may be used for fixing the eyelids, or they may be held open by the fingers of the operator; some prefer the speculum and fixation forceps—in either instance the eyeball is fixed. A fine cataract-needle is taken and passed through the cornea perpendicularly to its surface, the point entering its tissue near the periphery, and then through and into the membrane, and then by a rotatory

motion of the handle the point is made to make a rent in the cobweb-like substance. Care should be taken that no undue traction is made upon the ciliary region, as cyclitis may be set up by excessive manipulation. When the membrane is very delicate and thin, we can determine if the result has been accomplished by having an assistant concentrate light upon the cornea with a strong convex lens. If a sufficient opening has been made by the needle, it may be quickly withdrawn; the wound of entry is insignificant, and closes immediately on the withdrawal of the instrument.

When on the introduction of the needle into the membranous cataract the capsule moves with the needle without tearing, another, second, needle should be introduced on the opposite side of the cornea and the points of the two brought together and then gently separated, causing a rent; or one needle may remain fixed and the other one tear the membrane in a direction away from it. This procedure will usually cause the most dense and tough membrane to give way.

Occasionally the opaque capsule will move to and fro in the pupil and cause the patient much annoyance, or the opening will get smaller. In such cases it is wise to do an extraction of the capsule, by making an incision at the upper border of the cornea with an iridectomy-knife, and then introduce into the anterior chamber a sharp hook, which is entangled in the membrane and then carefully withdrawn through the corneal incision; delicate scissors should then clip off the capsular mass. If the hook fails to bring the capsule into the wound, then delicate iris-

forceps may be introduced into the anterior chamber and the capsule grasped by their blades, and then drawn into the corneal wound and excised by scissors. If the extraction was without iridectomy, care must be taken not to engage the instruments in the iris-tissue; if by chance the iris should prolapse, and it cannot be replaced by a spatula, it is best to excise it.

The treatment after either of these modes of dissection, or extraction of the capsule, includes rest, a bandage for forty-eight hours, and atropin-instillations three or four times a day. If much pain results from these operations, the use of hot fomentations will usually give relief; if not, cocain may be added to the atropin solution.

Cystoid cicatrix occasionally occurs after extraction of cataract, especially if care has not been taken to have the angles of the wound free of iris-tissue at the time of the extraction; it may also occur in those when the healing process has been protracted, and thinning of the sclero-corneal junction has taken place in consequence. It is best to remedy this defect at once, for if neglected, it is likely to lead to irido-cyclitis. Iridectomy usually gives relief in these cases.

The Medical News.

Established in 1843.

A WEEKLY MEDICAL NEWSPAPER.

Subscription, \$4.00 per Annum.

The American Journal
OF THE
Medical Sciences.

Established in 1820.

A MONTHLY MEDICAL MAGAZINE.

Subscription, \$4.00 per Annum.

COMMUTATION RATE, \$7.50 PER ANNUM.

LEA BROTHERS & CO.
PHILADELPHIA.